

Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

1 1. (currently amended) A method of controlling relative dimensions between an
2 original pattern present in a mold and a recorded pattern formed in a surface of a wafer,
3 said method comprising:

4 defining a region on said ~~layer~~ surface in which to produce said recorded pattern;
5 creating dimensional variations in said original pattern by subjecting said mold to
6 tensional stresses, defining a varied pattern; ~~and~~

7 bending said wafer to produce a contoured surface in said region, with said
8 contoured surface and said mold having similar radii of curvatures, wherein bending said
9 wafer further includes providing said contoured surface with an arcuate shape having a
10 constant radius of curvature, with said mold conforming to said arcuate shape; and

11 recording said varied pattern in said layer.

2. (cancelled)

3. (cancelled)

4. (cancelled)

1 5. (currently amended) The method as recited in claim 3 A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a surface of a wafer, said method comprising:

4 defining a region on said surface in which to produce said recorded pattern;
5 creating dimensional variations in said original pattern by subjecting said mold to
6 tensional stresses, defining a varied pattern;

7 recording said varied pattern in said layer; and

8 bending said wafer to produce a contoured surface in said region, with said
9 contoured surface and said mold having similar radii of curvatures, wherein defining
10 further includes defining a plurality of regions on said layer surface in which to produce
11 said recorded pattern and bending further includes bending said wafer to provide a
12 plurality of contoured surfaces, each of which has a normal associated therewith centrally
13 disposed therein, and creating further includes providing said mold with a curved profile
14 that is radially and symmetrically disposed about an axis and successively orientating
15 said axis to extend parallel to each said normal associated with each of said plurality of
16 regions.

1 6. (currently amended) The method as recited in claim 1 A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a surface of a wafer, said method comprising:
4 defining a region on said surface in which to produce said recorded pattern;
5 creating dimensional variations in said original pattern by subjecting said mold to
6 tensional stresses, defining a varied pattern;
7 recording said varied pattern in said layer; and
8 bending said wafer to produce a contoured surface in said region, with said
9 contoured surface and said mold having similar radii of curvatures, wherein creating
10 further includes providing said mold with a curved profile having a first radius of
11 curvature, and bending further includes providing said contoured surface with an arcuate
12 shape having a second radius of curvature.

1 7. (original) The method as recited in claim 1 wherein said mold includes a first
2 surface and a first neutral axis, separated therefrom a first distance, and said wafer
3 includes a second surface and a second neutral axis, separated therefrom a second
4 distance, with control of said dimensional variations being dominated by a greater of said
5 first and second distances.

1 8. (currently amended) ~~The method as recited in claim 3~~ A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a surface of a wafer, said method comprising:
4 defining a region on said surface in which to produce said recorded pattern;
5 creating dimensional variations in said original pattern by subjecting said mold to
6 tensional stresses, defining a varied pattern;
7 recording said varied pattern in said layer; and
8 bending said wafer to produce a contoured surface in said region, with said
9 contoured surface and said mold having similar radii of curvatures, wherein creating
10 further includes providing said mold with a curved profile having a first radius of
11 curvature, and bending further includes providing said contoured surface with an arcuate
12 shape having a second radius of curvature, with said second radius of curvature matching
13 said first radius of curvature.

1 9. (currently amended) ~~The method as recited in claim 3~~ A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a surface of a wafer, said method comprising:
4 defining a region on said surface in which to produce said recorded pattern;
5 creating dimensional variations in said original pattern by subjecting said mold to
6 tensional stresses, defining a varied pattern;
7 recording said varied pattern in said layer; and
8 bending said wafer to produce a contoured surface in said region, with said
9 contoured surface and said mold having similar radii of curvatures, wherein creating
10 further includes providing said mold with a curved profile that is radially and
11 symmetrically disposed about an axis to define a first radius of curvature, and bending
12 further includes providing said contoured surface with an arcuate shape radially and
13 symmetrically disposed about said axis to define a second radius of curvature.

10. (currently amended) The method as recited in claim 3 A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a surface of a wafer, said method comprising:
defining a region on said surface in which to produce said recorded pattern;
creating dimensional variations in said original pattern by subjecting said mold to tensional stresses, defining a varied pattern;
recording said varied pattern in said layer; and
bending said wafer to produce a contoured surface in said region, with said contoured surface and said mold having similar radii of curvatures, wherein creating further includes providing said mold with a curved profile that is radially and symmetrically disposed about an axis to define a first radius of curvature, and bending further includes providing said contoured surface with an arcuate shape radially and symmetrically disposed about said axis to define a second radius of curvature, with said second radius of curvature matching said first radius of curvature.

11. (currently amended) The method as recited in claim 3 A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a surface of a wafer, said method comprising:
defining a region on said surface in which to produce said recorded pattern;
creating dimensional variations in said original pattern by subjecting said mold to tensional stresses, defining a varied pattern;
recording said varied pattern in said layer; and
bending said wafer to produce a contoured surface in said region, with said contoured surface and said mold having similar radii of curvatures, wherein creating further includes providing said mold with a curved profile, while minimizing shear forces on said wafer, and bending further includes providing said contoured surface with an arcuate shape while minimizing shear forces on said wafer.

12. (currently amended) A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a layer of a wafer, said method comprising:

defining a region on said layer in which to produce said recorded pattern;
bending said wafer to produce a contoured surface in said region, wherein
bending said wafer further includes providing said contoured surface with an arcuate shape having a constant radius of curvature, with said mold conforming to said arcuate shape;

creating dimensional variations in said original pattern by bending said mold, defining a varied pattern, with said contoured surface and said mold having similar radii of curvatures; and

recording said varied pattern in said layer.

13. (cancelled)

14. (currently amended) ~~The method as recited in claim 12~~ A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a layer of a wafer, said method comprising:

defining a region on said surface in which to produce said recorded pattern;
bending said wafer to produce a contoured surface in said region;
creating dimensional variations in said original pattern by bending said mold,
defining a varied pattern, with said contoured surface and said mold having similar radii of curvatures; and

recording said varied pattern in said layer, wherein defining further includes defining a plurality of regions on said layer in which to produce said recorded pattern and bending further includes bending said wafer to provide a plurality of contoured surfaces, each of which has a normal associated therewith centrally disposed therein, and creating further includes providing said mold with a curved profile that is radially and symmetrically disposed about an axis and successively orientating said axis to extend parallel to each said normal associated with each of said plurality of regions.

1 15. (currently amended) The method as recited in claim 12 A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a layer of a wafer, said method comprising:
4 defining a region on said surface in which to produce said recorded pattern;
5 bending said wafer to produce a contoured surface in said region;
6 creating dimensional variations in said original pattern by bending said mold,
7 defining a varied pattern, with said contoured surface and said mold having similar radii
8 of curvatures; and
9 recording said varied pattern in said layer, wherein creating further includes
10 providing said mold with a curved profile having a first radius of curvature, and bending
11 further includes providing said contoured surface with an arcuate shape having a second
12 radius of curvature.

1 16. (original) The method as recited in claim 12 wherein said mold includes a first
2 surface and a first neutral axis, separated therefrom a first distance, and said wafer
3 includes a second surface and a second neutral axis, separated therefrom a second
4 distance, with magnification control being defined by a greater of said first and second
5 distances.

1 17. (currently amended) The method as recited in claim 12 A method of controlling
2 relative dimensions between an original pattern present in a mold and a recorded pattern
3 formed in a layer of a wafer, said method comprising:
4 defining a region on said surface in which to produce said recorded pattern;
5 bending said wafer to produce a contoured surface in said region;
6 creating dimensional variations in said original pattern by bending said mold,
7 defining a varied pattern, with said contoured surface and said mold having similar radii
8 of curvatures; and
9 recording said varied pattern in said layer, wherein creating further includes
10 providing said mold with a curved profile having a first radius of curvature, and bending
11 further includes providing said contoured surface with an arcuate shape having a second

radius of curvature, with said second radius of curvature matching said first radius of curvature.

18. (currently amended) ~~The method as recited in claim 12~~ A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a layer of a wafer, said method comprising:

defining a region on said surface in which to produce said recorded pattern;
bending said wafer to produce a contoured surface in said region;
creating dimensional variations in said original pattern by bending said mold.
defining a varied pattern, with said contoured surface and said mold having similar radii of curvatures; and

recording said varied pattern in said layer, wherein creating further includes providing said mold with a curved profile that is radially and symmetrically disposed about an axis to define a first radius of curvature, and bending further includes providing said contoured surface with an arcuate shape radially and symmetrically disposed about said axis to define a second radius of curvature.

19. (currently amended) ~~The method as recited in claim 12~~ A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a layer of a wafer, said method comprising:

defining a region on said surface in which to produce said recorded pattern;
bending said wafer to produce a contoured surface in said region;
creating dimensional variations in said original pattern by bending said mold.
defining a varied pattern, with said contoured surface and said mold having similar radii of curvatures; and

recording said varied pattern in said layer, wherein creating further includes providing said mold with a curved profile that is radially and symmetrically disposed about an axis to define a first radius of curvature, and bending further includes providing said contoured surface with an arcuate shape radially and symmetrically disposed about

said axis to define a second radius of curvature, with said second radius of curvature matching said first radius of curvature.

20. (currently amended) ~~The method as recited in claim 12~~ A method of controlling relative dimensions between an original pattern present in a mold and a recorded pattern formed in a layer of a wafer, said method comprising:
defining a region on said surface in which to produce said recorded pattern;
bending said wafer to produce a contoured surface in said region;
creating dimensional variations in said original pattern by bending said mold,
defining a varied pattern, with said contoured surface and said mold having similar radii of curvatures; and
recording said varied pattern in said layer, wherein creating further includes providing said mold with a curved profile, while minimizing shear forces on said wafer, and bending further includes providing said contoured surface with an arcuate shape while minimizing shear forces on said wafer.